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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/536,473

05/25/2005

Heinrich Englander

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EXAMINER

PILKINGTON, JAMES

ART UNIT

PAPER NUMBER

3682

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/536,473	Applicant(s) ENGLANDER ET AL.	
	Examiner James Pilkington	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,10,11 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9,12-14,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/25/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II, Claims 1-9 and 12-17 in the reply filed on March 12, 2007 is acknowledged. The traversal is on the ground(s) that the search would not be burdensome on the examiner because "the present bearing is particularly well-suited for drag vacuum pumps." This is not found persuasive because one of ordinary skill in the art, when looking for a bearing, would not be motivated to look in the field of vacuum pumps.

The requirement is still deemed proper and is therefore made FINAL.

2. Applicant's election without traverse of the species of Figure 1, Claims 1, 2, 5-14, 16 and 17 in the reply filed on June 29, 2007 is acknowledged.

The status of the claims to be examined is as follows: Claims 1, 2, 5-9, 12-14, 16 and 17.

Claim Objections

3. Claims 1 and 17 objected to because of the following informalities:

- Claim 1 line 1 the word "having" should be - -comprising- -
- Claims 17 lines 1-2 the phrase "the bearing ball bearing having" should be - - the ball bearing comprising- -

Appropriate correction is required.

4. Claim 17 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 7 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "relatively narrow gap" in claim 1 and 17 is a relative term which renders the claim indefinite. The term "relatively narrow gap" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How narrow is a "relatively narrow gap"?

Claim 7 recites a material that is selected so that the system cannot overcome the friction produced during an emergency rundown. It is not clear what the property of this material is. Any material-to-material contact produces friction which overtime stops a system from moving. It appears that any material would satisfy this claim limitation.

Claim 7 recites the limitations "the drive" and "the rotating system" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the drive of the rotating system cannot overcome the friction produced during an emergency rundown so that it switches to failure." It is not clear to the examiner what "it" is. Is "it" the bearing or the drive? Also, how does friction cause something to switch to failure, what is being switched and how does this happen?

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 5, 7 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Obara, USP 6,176,620.

Regarding claims 1 and 17, Obara discloses a ball bearing (Figure 1) having a stationary race and a rotating race (race 1 made of elements 2/4/6 and race 2 made of element 1), wherein the bearing has surfaces (face of 4 and face of race 1 in Figure 1) which are concentric to the rotation axis (dashed line in Figure 1) and of which one is a part of the rotating bearing race and the other is a part of the fixed bearing race, wherein the surfaces are situated opposite one another with a relatively narrow gap (g) therebetween.

Regarding claim 2, Obara discloses that the concentric surfaces (face of 4 and face of race 1) also extend axially (along the rotational axis).

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Regarding claim 5, Obara discloses that at least one of the concentric surfaces (face of 4) is mounted on a radial projection (4) and simultaneously functions as a bearing cover.

Regarding claim 7, Obara discloses a material for the concentric emergency bearing surfaces.

9. Claims 1, 2, 5, 7 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Geffroy, FR1464889 (submitted by Applicant).

Regarding claims 1 and 17, Geffroy discloses a ball bearing (Figure 9) having a stationary race and a rotating race (1d and 2d), wherein the bearing has surfaces (on either side of gap j4) which are concentric to the rotation axis and of which one is a part of the rotating bearing race and the other is a part of the fixed bearing race (1d and 2d), wherein the surfaces are situated opposite one another with a relatively narrow gap (j4) therebetween.

Regarding claim 2, Geffroy discloses that the concentric surfaces also extend axially (along the rotational axis, central axis of 1d).

Regarding claim 5, Geffroy discloses that at least one of the concentric surfaces is mounted on a radial projection (just below reference character 2d) and simultaneously functions as a bearing cover.

Regarding claim 7, Geffroy discloses a material for the concentric emergency bearing surfaces.

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10. Claims 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato, USP 4,938,610.

Regarding claim 14, Kato discloses a ball or roller bearing comprising an inner annular race (1a); an outer annular race (2a); balls or rollers (3) mounted in a rolling relationship between the inner and outer annular races (1a and 2a); a first annular projection (1d) extending radially from a first edge of one of the races (1a) toward the other (2a); emergency bearing faces (face of 1d and 2c) defined on a radially outer face of the projection (1d) and the other bearing race (2a), the emergency bearing surfaces facing each other across a gap (G)/

Regarding claim 16, Kato discloses a bearing cover (1b/1c)) disposed between second edges of the inner and outer races.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obara '620 as applied to claim 1.

Obara does not disclose that the gap is less than 0.1 mm or less than 0.05 mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the gap less than 0.1mm or 0.05mm, since it has been

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held that discovering an optimum value of a resulting effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

13. Claims 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obara '620 as applied to claim 1.

Obara further discloses that components of the bearing are made of metal.

Obara does not disclose that the material is steel or hardened roller bearing steel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use steel or hardened roller bearing steel, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

14. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Obara '620 as applied to claim 1 in view of Alexander et al, USP 3,445,146.

Obara does not disclose that at least one of the two emergency bearing surfaces is coated.

Alexander teaches a ball bearing with emergency bearing surfaces (either side of gap B) that are coated (23 is a coating of material).

It would have been obvious to one of ordinary skill in the art to use a material coating in Obara to keep the emergency bearing surfaces from coming into direct

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contact with each other during normal operation as taught by Alexander. Using the known technique of a material coating in Obara would have been obvious to one of ordinary skill in the art.

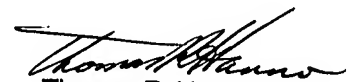
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Pilkington whose telephone number is (571) 272-5052. The examiner can normally be reached on Monday-Friday 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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8/14/07


Thomas R. Hannon
Primary Examiner